WHAT IS CLAIMED IS:

1. A purified ICOS polypeptide having altered affinity for B7-H2 compared to a wild-type ICOS polypeptide, wherein said affinity is at least 6% of the affinity of said wild-type ICOS polypeptide.

2. The purified ICOS polypeptide of claim 1, the amino acid sequence of which differs from a wild-type ICOS polypeptide having the amino acid sequence of SEQ ID NO:12.

3. The purified ICOS polypeptide of claim 2, wherein said difference is at amino acid position 76.

4. The purified ICOS polypeptide of claim 3, wherein said amino acid position 76 contains a glutamine.

5. The purified ICOS polypeptide of claim 2, wherein said difference is at amino acid position 52.

6. The purified ICOS polypeptide of claim 5, wherein said amino acid position 52 contains a serine.

7. The purified ICOS polypeptide of claim 1, wherein said polypeptide is capable of inhibiting T cell activation in a T cell proliferation assay.

8. An isolated nucleic acid molecule comprising a nucleic acid sequence that encodes the polypeptide of claim 1.

9. A vector comprising the nucleic acid of claim 8.

10. The vector of claim 9, wherein said nucleic acid sequence is operably linked to expression control sequences.

11. A host cell comprising the vector of claim 9.

12. A method for inhibiting T cell activation, comprising contacting an antigen-presenting cell with a purified ICOS polypeptide, wherein said polypeptide is capable of binding to

B7-H2 with increased affinity relative to a wild-type ICOS polypeptide having the amino acid sequence of SEQ ID NO:12.

13. The method of claim 12, wherein said purified ICOS polypeptide comprises a Ser76Glu mutation.

14. The method of claim 12, wherein said purified ICOS polypeptide comprises a Lys52Ser mutation.

15. A method for inhibiting T cell activation in a subject, comprising administering an amount of the purified ICOS polypeptide of claim 1 that is capable of inhibiting a T cell response in said subject.

16. The method of claim 15, wherein said ICOS polypeptide comprises a Ser76Glu mutation.

17. The method of claim 15, wherein said ICOS polypeptide comprises a Lys52Ser mutation.

18. The method of claim 15, wherein said subject has an autoimmune disease.

19. The method of claim 18, wherein said subject has rheumatoid arthritis.

20. The method of claim 18, wherein said subject has systemic lupus erythematosus.

21. The method of claim 18, wherein said subject has diabetes mellitus.

22. The method of claim 15, wherein said subject is a transplant recipient.

23. A method for making an ICOS polypeptide, comprising culturing the cell of claim 11 and isolating said ICOS polypeptide from said culture.